

# An Interview with the Director

**By Admiral Arthur K. Cebrowski**

Director of Force Transformation  
Office of the Secretary of Defense

*In the Quadrennial Defense Review and Defense Planning Guidance, Secretary of Defense Rumsfeld called for the establishment of the Office of Force Transformation within the Office of the Secretary of Defense and appointed retired Navy Vice Admiral Arthur K. Cebrowski as its director. Cebrowski reports directly to Secretary Rumsfeld and will link transformation efforts to the broad elements of national and DoD strategy. Cebrowski granted the following interview with ITAA in August, 2002.*

**ITAA: Much of American talk today remains centered on technology. What lessons are we learning from this history given all the talk about our technology—net-centric warfare, remote sensors, etc? What is being done to change the culture of the U.S. military to be receptive to transformational operational and tactical concepts?**

**CEBROWSKI:** First, it must be understood that transformation is the co-evolution of technology, organizations and concepts. It is not about technology alone. Changes in any one of these should trigger a response in the other two areas. This is ongoing and it is continuous. We have seen this in businesses around the globe. Once firms start buying high quality information technology, they realize their organizations are not structured to take advantage of this technology, so they must restructure. Once that process begins a profoundly different company emerges at the other end of the equation.

Network centric warfare is not about technology per se—it is an emerging theory of war. That is, power comes from a different place, it is used in different ways, it achieves different effects than it did before. When that happens we call that a new theory of warfare. It is not about the network, rather it is about how wars are fought. How power is developed. During the industrial age, power came from mass. Now power tends to come from information, access and speed.

That said, we are witnessing important, though nascent changes emerging in the realm of sensors and how they will be used on future battlefields. In Operation Enduring Freedom in Afghanistan we are looking for future implications. We are seeing warfare dominated more by sensors than perhaps any other piece of equipment. The ability to sense the environment, to sense the enemy and to be networked enough to transmit that critical data to all who require it, is a trend line emerging from current operations. The issue is not weapons reach. The issue is sensor reach. The whole world knows that if U.S. military systems can see a target we can kill it. Consequently, potential enemies are working very hard to make it difficult for us to sense their targets, so we are shifting from a weapons game to a sensor game. If you look at those Special Operations personnel on the ground in Afghanistan, they were sensors.

**ITAA: The history of transformation suggests that promoting officers open to innovation and allowing them to flourish without reprisal is important. How is the Pentagon doing in this regard? What work remains to be done?**

CEBROWSKI: Successful transformation hinges on creating a culture of innovation. That culture must foster leadership, education, process, organization, values and attitudes that encourage and reward those who embrace innovative risks. This requires creating within the Department of Defense a revised risk-reward system that encourages innovation by selecting and promoting personnel who encourage a culture of innovation in subordinates. To accomplish this goal, the Department of Defense must ensure personnel policies value people and their intellectual capital as a strategic asset that must be skillfully managed and encouraged. To help accelerate this process, the Pentagon's draft Transformation Planning Guidance calls for the military services to establish by fiscal year 2004, promotion policies that reward innovative thinkers and doers. In addition, different skill sets are required to manage the transition from industrial age to information age warfare and the military's personnel pool must address these changes. Since so much of the transition to the information age relies on understanding commercial practices, the Department of Defense must build a cadre of future leaders who intimately understand the adaptive and innovative culture of business. This future elite must recognize disruptive technologies or processes, and the associated opportunities they present, as they emerge.

**ITAA: How will transformation affect logistical deployment, particularly given the priorities for U.S. force protection capabilities as outlined in the recent QDR? Is the Pentagon's Future Logistics Enterprise approach fixing the past or positioning DoD for flexibility to adapt for the transformed future?**

CEBROWSKI: The industrial age and its associated analytical tools, including cost-benefit analysis, have led to the general belief that optimization is both efficient and effective. But we have now learned that dynamic processes in complex environments not only defy optimization but attempts to optimize also lead to wholesale dysfunction in the enterprise. We see this in both communications and logistics as people try to get just the right information or just the right item to the right person at the right time, no more, no less. It sounds right, but it doesn't work. That is why we have to move away from the current concept of "focused logistics" to what is called "sense and respond logistics." Emerging logistics concepts suggest the widespread application of information technology can enable new supply chain concepts to achieve unprecedented levels of performance. But information age warfighting concepts are creating much more fluid and self-organizing military forces. Such forces are expected to be distributed, highly robust, and very dynamic. But traditional practices in logistics and supply train management work best with high levels of predictability and stability. They are simply not suited to the quickly evolving and adaptive behavior of future military forces. Additionally, even as we have been attempting optimization of logistics, the massive inefficiencies in the current system are embarrassments we can no longer afford. These will combine to force a change in our thinking about logistics no matter the pace of transformation.

**ITAA: You have spoken at length about the need for prototyping—getting equipment into the hands of those who can experiment and come up with new uses and approaches. Can you explain your successes in this area and how you can see this having a substantial impact in the FYDP?**

CEBROWSKI: Getting transformation prototypes or technological surrogates into the hands of the operating forces is critical to accelerating the process of transformation across the department of defense. Injecting prototypes into the forces in the field opens the door for the emergence of new operational concepts. This is the lifeblood of transformation. It is imperative that we put into the hands of operators a capability they did not previously possess and did not imagine. We provide them a life changing experience. Once they experience this, they now believe in the process and that is the power of experimenting with transformational articles. Troops can put their hands on it, see it, feel it, it changes their life and they are committed to it on the ground floor.

A great example of this approach has been the military services' experience with the High Speed Vessels, which are being leased from an Australian shipyard. Australian military forces used these vessels to great effect during peacekeeping operations in East Timor in recent years. These ships are now being used by the Navy, the Army, the Marines, and Special Operations Forces to test out new operating concepts. The high-speed ships are indeed highly transformational. Compared to traditional amphibious ships, the catamaran ships are much faster and possess a shallower draft that allows them access to more ports with less preparation. But look at the cost. They are an order of magnitude cheaper than today's amphibious ship. One-tenth the cost. Consider the high-speed ships overhead as well. The most efficient American amphibious ship delivers 1.77 Marines per embarked sailor. The Australian experience is 25 to 50 soldiers delivered per embarked sailor. That is a huge difference. I'm not arguing that we buy exclusively this capability, but I am arguing that we ought to buy some of it, experiment with it, and develop some operational experience with it.

The Department of Defense is taking new steps to increase the pace at which combatant commanders can experiment with novel technologies and innovative approaches. The draft Transformation Planning Guidance calls for the establishment of a Transformation Initiative Program, whose sole purpose is to underwrite joint commanders' efforts to implement unforeseen transformation initiatives and opportunities.

**ITAA: The U.S. military is the benchmark force by which all other militaries of the world measure themselves. It is rare in military history that a dominant power introduces transformational systems. How does the U.S. transform while keeping barriers to entry to competitors high, particularly in the use of space systems?**

CEBROWSKI: The United States is the big kid on the block. Everyone else studies us. Everyone else designs against us. The U.S. military is indeed the most studied technically, operationally and organizationally in the world. In war games being conducted around the world there is the American military methodology and on the other side there are alternatives to counter those strengths. Some of those, are perhaps, quite new. Some represent different cultures or different technical approaches. As a consequence, however, to the extent that America does not transform, its military force is ultimately doomed. That is because while we now occupy a far superior military position, the rest of the world is changing and what constitutes superior military positioning is equally likely to change.

This is being driven by the fact that nearly all nations are moving from the industrial age to the information age. One of the tenets characterizing entry into the information age is the plummeting cost of very high quality information technology. Virtually ubiquitous, this equipment is broadly available and you do not have to be one of the leading world economies in order to have access to very advanced technologies. All of the major technological advances, energetics, propulsion, explosives, bio-engineering, are all achieved by virtue of information. As we move into this new age there are new rules that emerge, new power centers, new relationships and people behave in different ways.

These are very profound changes. The United States has been in a leadership position and this is not a position that we can or should give up. This is a wholly changed strategic development.

**ITAA:** In recent congressional debates over DoD budgets for 2003, there has been considerable misunderstanding over the differences between modernization and transformation. Given the procurement holiday over the last decade, how do you envision accomplishing transformational goals with the need to replace existing weapons platforms? Are you happy with the balance between modernization and transformation? What should the priorities be?

**CEBROWSKI:** Transformation is not interested in changes on the margins, but instead in profound changes in kind and in degree. These changes result in new behaviors. In transformation we look at what the military force can now do that it was unable to do before. This is quite different than modernization. Any enterprise is interested in modernization as its capital plant ages and must be replaced. However, if modernization constitutes the sum and substance of the mode of change for a firm, then it is on its way to obsolescence. In terms of national security, that is a wholly unsatisfactory outcome. But this is not an “either or proposition.” The lion’s share of the defense budget in coming years will still be devoted to operations and modernization. The fraction to be spent on transformation will be very small in comparison. One cannot neglect either modernization or transformation.

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### About the Author

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Arthur K. Cebrowski

Arthur K. Cebrowski was appointed by the Secretary of Defense as Director, Force Transformation effective 29 October 2001, reporting directly to the Secretary and Deputy Secretary of Defense.

The Secretary of Defense called for the creation of this new office in support of President Bush’s broad mandate to transform the nation’s military capabilities. The transformation process challenges the status quo with new concepts for American defense to ensure an overwhelming and continuing competitive advantage for America’s military for decades to come.

As director, Admiral Cebrowski is an advocate, focal point, and catalyst for transformation. He links transformation to strategic functions, evaluates the transformation efforts of the Military Departments, and promotes synergy by recommending steps to integrate ongoing transformation activities. Among his primary responsibilities, Admiral Cebrowski monitors Service and Joint experimentation programs and makes policy recommendations to the Secretary and Deputy Secretary of Defense.

Admiral Cebrowski was born in Passiac, New Jersey, on 13 August 1942. He is a 1964 graduate of Villanova University, holds a Masters Degree in Computer Systems Management from the Naval Post Graduate School and attended the Naval War College.

He entered the Navy through the Reserve Officers Training Corps in 1964. He is a Naval Aviator and commanded Fighter Squadron 41 and Carrier Air Wing EIGHT. He commanded the assault ship USS GUAM, the aircraft carrier USS MIDWAY and the USS AMERICA Battle Group. He has combat experience in Vietnam and Desert Storm. His Joint assignments included service as the Director, Command, Control, Communications and Computers (J-6), Joint Staff. Admiral Cebrowski retired from the Navy on October 1, 2001 with over 37 years of service, after serving as the President of the Naval War College in Newport, Rhode Island.

Admiral Cebrowski is married to the former Kathryn Prezzano of Pelham Manor, New York. They have two daughters and five granddaughters.